

REMARKS

A Request for Continuing Examination (RCE) is being submitted contemporaneously herewith. Applicants request reconsideration of the above-identified application in light of the remarks set forth herein.

Claims 1 and 2 are pending in this application. Claim 1 has been amended.

Claims 1 and 2 have been rejected under 35 U.S.C. § 112 and § 103(a). Applicants respectfully submit that all claims are now in condition for allowance. Accordingly, applicants request reconsideration and allowance of all claims.

Claim Rejections Under 35 U.S.C. § 112

Claims 1 and 2 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite, with respect to the term "thin-walled." Specifically, the Office Action states that the term "thin-walled" is a relative term which renders the claim indefinite. Applicants have entered an appropriate correction.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5520877, issued to Collette et al. (hereinafter "Collette"), in view of European Patent No. EP0683029, issued to Nakamaki et al. (hereinafter "Nakamaki"), and further in view of U.S. Patent No. 4177239, issued to Gittner et al. (hereinafter "Gittner"), and U.S. Patent No. 4641758, issued to Sugiura (hereinafter "Sugiura"). Applicants respectfully disagree.

To establish a *prima facie* case of obviousness, the cited prior art references must teach or suggest all the claim elements. In addition, there must be some apparent reason, either in the references or in the knowledge of one skilled in the art, to modify the reference or to combine the elements of multiple references with a reasonable expectation of success.

Claim 1, as currently amended, recites a biaxially-oriented polyester container formed by a double-stage orientation blow molding method, the container having a uniformly elongated

bottom part having uniform wall thickness. When an X-ray diffraction measurement is performed in a bottom center area and within 1/2 of the radius of a container bottom part of said biaxially-oriented polyester container, a peak indicative of molecular orientation is observed near a diffraction angle of $2\theta = 15$ to 30° . In addition, an orientation parameter (BO) expressed by the following formula is in the range of $0.5 \leq BO \leq 2$ in the bottom center area and within 1/2 of the radius of the container bottom part: orientation parameter (BO) = I_x / I_y . I_x indicates a diffraction intensity near the diffraction angle of $2\theta = 15$ to 30° when the X-ray diffraction measurement is performed in the X-direction, and I_y indicates a diffraction intensity near the diffraction angle of $2\theta = 15$ to 30° when the X-ray diffraction measurement is performed in a direction orthogonal to that for I_x .

The Office Action cites Collette as purportedly teaching a method for forming a biaxially oriented, bottle-shaped container by first blow molding a preform to a size larger than the final product size, heat shrinking the intermediate product, and then blow molding the intermediate product to obtain the final product. The Office Action indicates that Collette is silent with respect to whether the bottom of the preform is unrestrained during the primary blow-molding step.

The Office Action cites Nakamaki as purportedly disclosing a process for preparing a container wherein the bottom of the preform is unrestrained during the primary blow-molding step. The Office Action states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Collette and Nakamaki to develop a process which produces a one-piece polyester bottle having a bottom with excellent mechanical strength. However, the Office Action admits that Collette and Nakamaki are silent with respect to whether the bottom of the container has a uniformly oriented and thin-walled bottom part.

As explained in applicants' previous response, the bottom part of the container shown in Collette is not oriented at all in the first expansion step performed in the first mold units. As described in Column 3, lines 47-52, of Collette, the resulting container base includes a thickened base portion of low orientation and crystallinity, such that the thickened base portion is at least 3x the thickness of the sidewall. Due to these differences, the base portion in Collette would not inherently have the X-ray diffraction and orientation parameter values of the claimed invention.

Moreover, Nakamaki fails to cure the deficiencies of Collette. Specifically, Nakamaki fails to teach or suggest "a uniformly elongated bottom part having uniform wall thickness," as recited in Claim 1. In contrast, Nakamaki refers to thick and thin portions on the bottom of the containers, such that the center of the bottom portion is thicker than the periphery of the bottom portion of the container (see, e.g., paragraph [0063] of Nakamaki). Therefore, Nakamaki does not teach or suggest a uniformly elongated bottom part having uniform wall thickness or the claimed X-ray diffraction values and orientation parameter.

The Office Action cites Sugiura as purportedly teaching a bottom with thin walls and an essentially uniform biaxially oriented bottom. Further, the Office Action cites Gittner as purportedly teaching that it is known in the art to uniformly orient the bottoms of containers such as bottles.

As described in the present application, the release of the bottom part of the preform from the restrained state (see, e.g., FIGURES 5 and 6) results in a bottle having uniform elongation in or near a bottom center area, which results in orientation parameters in and near the bottom center area in a range as recited in Claims 1 and 2. As described at pages 2 and 3 of the present application, when the bottom part of a preform 10 is restrained by a stretch rod 14 and a press rod 15 as shown in FIGURE 11 (prior art), the bottom part of the polyester container is not sufficiently elongated and a non-elongated portion remains in or near a bottom center area of the polyester container. Moreover, as described at pages 9-10 of the present application, also

referring to the prior art method shown in FIGURE 11, wherein biaxial orientation blow molding is performed in the state in which the bottom part of the preform 10 is restrained by the stretch rod and the press rod, "the biaxially oriented polyester container cannot be obtained in which the orientation parameter (BO) in and near the bottom center area is in the range specified according to the present invention."


A review of Sugiura and Gittner shows bottles having bottom parts that are not released from restrained states when the primary orientation blow molding is performed (see, e.g., Sugiura at Figure 19, and Gittner at Figures 3, 6, 9, and 14). As a result of the restrained states, neither Sugiura nor Gittner can achieve a uniform elongated bottom part or the X-ray diffraction and orientation parameter values recited in the claimed invention. For at least these reasons, the cited references do not teach or suggest all of the claim elements. Accordingly, applicants respectfully request withdrawal of the claim rejections.

CONCLUSION

In view of the foregoing amendments and remarks, applicants respectfully submit that the present application is in condition for allowance. The Examiner is invited to contact the undersigned representative with any remaining questions or concerns.

Respectfully submitted,

CHRISTENSEN O'CONNOR
JOHNSON KINDNESS^{PLLC}


Emily C. Peyser
Registration No. 59,844
Direct Dial No. 206.695.1634

ECP:ejh